

**Notice of Allowability**

Application No.

09/640,480

Examiner

Annan Q Shang

Applicant(s)

SANDBERG ET AL.

Art Unit

2614

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to amendment filed on 07-08-04.
2. ☒ The allowed claim(s) is/are 17 and renumbered as 1-17 respectively.
3. ☒ The drawings filed on 16 August 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |  |
|---|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)            |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance   |
|   | 9. <input type="checkbox"/> Other _____.   |

## DETAILED ACTION

### *Allowable Subject Matter*

1. Claims 1-18 allowed.
2. The following is an examiner's statement of reasons for allowance: with respect to claims 1 and 7, the instant invention is directed to method of implementing cable modem functions on a host computer, a modem function processor and method of performing modem functions. The most relevant prior art of records **Liu et al (6,618,387)** is directed to an interface for abstracting control of a cable modem, where Hardware Abstraction Layer (HAL) acts as an interface with Media Access Controller (MAC) and Physical Layer and establishes a connection between the MAC and Physical Layer and permits any host to operate with the cable modem, so long as the cable modem and associated software are compatible with the HAL and further disclose where the host computer and the cable modem shares the memory, CPU and the system resources of the host computer. **Bernath et al (6,629,288)** disclose cable modem with programmable MAC supported by a programmable Cyclic-redundancy-checks (CRC), which permits compliance with wide variety of standards. **Isono et al (6,216,171)** disclose cable modem control method for a subscriber Local area network (LAN) distributing data to a plurality of subscriber LAN devices. However, neither **Liu**, **Bernath** nor **Isono**, and any of the cited references teach or suggest, alone or in combination, a feature "a firmware emulator that emulates cable modem firmware that performs the cable modem functions" as recited in independent claims 1 and 7.

With respect to claim 15, neither, **Liu, Bernath** nor **Isono**, and any of the cited references teach or suggest, alone or in combination, a feature “distributing modem commands and/or data among a plurality of state machines that perform respective state machine functions and processing the state machine functions by the plurality of state machines on a host computer,” as recited with respect to independent claim 15.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled “Comments on Statement of Reasons for Allowance.”

### ***Conclusion***

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen et al (6,782,884) disclose method and apparatus for locating a faulty component in a cable television system having cable modems.

Budinger et al (6,802,032) disclose method and apparatus for performing system diagnostics on a cable modem termination system using a hand held computing device.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Annan Q Shang** whose telephone number is **703-305-2156**. The examiner can normally be reached on **700am-500pm**.


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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **John W Miller** can be reached on **703-305-4795**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the **Electronic Business Center (EBC)** at **866-217-9197 (toll-free)**.



Annan Q. Shang.



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